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SUMMIT OVERVIEW

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CONNECT CIS

Beyond the Crisis: ICT As An Engine for Economic Growth

1. BACKGROUND

The telecommunication industry is engaged in a long-term transition to Internet Protocol (IP)-enabled Next-Generation Networks (NGNs), which is revolutionizing the way in which telecom operators and service providers do business. On the positive side, these advanced networks offer high-speed access to the Information Society and a range of new services, as well as positive spillover effects of growth and productivity across the economy. On the downside, the transition to NGN is overturning traditional sources of revenue and forcing many sectors to reexamine distribution models and how and whether they can charge for content.

More recently, the financial crisis and global economic slowdown is threatening demand and revenues and has imposed major funding constraints on industry and Governments alike, at a time when massive investments are needed to upgrade infrastructure. In CIS economies, there is usually already a high degree of state involvement in the planning and funding of new infrastructure. In OECD countries, the fall-out from the financial crisis has revived debates over the role of government in infrastructure investment, with governments taking back the initiative in the funding and roll-out of new infrastructure in many of the stimulus plans announced. The focus is now on policy options for investing strategically in the digital future. Policy-makers must invest wisely for long-term growth and prosperity and ensure the nationwide development of the telecommunication sector.

2. PURPOSE OF THIS PAPER:

This paper aims to:

- Give a brief overview of the impact of the financial crisis on the ICT industry globally and in the CIS region;
- Highlight research to date on the growth impact of Information and Communication Technologies (ICTs); and
- Highlight the importance of strategically investing in broadband infrastructure for the digital future, due to its sizeable spillover effects and positive externalities.

3. IMPACT OF THE FINANCIAL CRISIS ON THE ICT INDUSTRY

The financial crisis that erupted a year ago has shaken the global financial sector to its foundations and sent the economies of many industrialized countries spinning into recession, while slowing the growth of major emerging markets. The size and scale of the global economic slowdown have proved staggering.

The financial crisis and credit crunch have also cut directly across many operators' investment plans to upgrade existing networks and roll out NGNs. Not only do operators face more expensive and more limited financing, they also face great uncertainty over the regulatory future and revenue streams associated with NGNs. The massive investments required, changing business models and only uncertain future revenues and returns have led to calls for governments to get involved in the financing and roll-out of NGNs. As the delivery of public and private services increasingly moves online, access to broadband is increasingly becoming a public policy problem, if balanced development is to be achieved.

The ICT industry had a tough start to 2009, with almost all the Q1 2009 indicators in decline, with positive economic indicators only starting to emerge from mid-2009 onwards. Worldwide, the OECD notes that semiconductor, communications and IT equipment have been particularly affected by slowing business and consumer demand. The communications equipment sector is feeling the pressure of the downturn, despite continuing investments in broadband. ICT employment has also trended downwards, but not as rapidly as in some other sectors. R&D is also declining.

Infonetics Research projects that global service provider capital expenditure (capex) peaked in 2008 at US\$ 298 billion, but will decline sharply by 2.8% in 2009, with service providers significantly reducing equipment spending. They foresee a slow return to growth in 2011 with the start of a new investment cycle. Service providers that have not made investments during good economic times are less likely to do so during an economic slowdown. Furthermore, local or regional authorities may lack the financial or human resources to make investments in broadband infrastructure. The World Bank notes that there is not enough public sector money to solve the global crisis,¹ so recovery strategies are needed that encourage private business and financing as well.

In response to the economic crisis, around fifty governments have announced stimulus packages. For example, the Russian Federation has announced a stimulus plan of around 8% of GDP or some US\$ 101 billion. Such stimulus plans affect the ICT sector in direct and indirect ways. The immediate aim of many of these packages is to restore the health of the banking sector and stimulate short-term demand (e.g. by re-financing banks, injecting cash into the economy and protecting jobs). These measures may also help counteract negative demand pressures on the ICT sector and help sustain the diffusion of ICTs.

Most governments are also planning supply-side investments to restore more favourable conditions for innovation and long-term economic growth. In many cases, these long-term plans are directly related to the ICT sector or ICT applications (e.g. "smart" applications in urban, energy or transport infrastructure). The question is how ICT policies should be reshaped in the context of the economic crisis, to find a balance between proven ICT policies on the one hand and more rapid crisis-response measures on the other hand.

In the CIS region, major leading operators (such as MTS, VimpelCom and MegaFon) have all announced major cutbacks in capital expenditure. They are continuing to monitor and observe the market dynamics closely and are assessing whether it is possible to restore capital expenditure to its former levels. M&A deals have also been largely frozen since the end of

2008 – for example, by VimpelCom, which had made several large costly acquisitions shortly before the financial crisis hit (such as its acquisition of Golden Telecom in February 2008 and 49% of Euroset, a leading handset retailer, in October 2008).

Average Revenue Per User (ARPU) levels have also dipped significantly since the financial recession went global. As according to MTS, subscribers have been trying to optimize their mobile spend as much as possible, using free on-net calls or migrating to better value tariff plans. This has resulted in MOU levels remaining relatively stable, whilst ARPU has fallen. And the Average Price Per Minute (APPM) has also fallen significantly. Major Russian operators have reported that the corporate and high-end segments have been hardest-hit and that they are also seeing sharp declines in roaming revenues, both home and abroad. However, the major operators have also stated that data usage trends are showing signs of resilience despite the crisis, and data revenues and usage have been increasing. The operators are now putting strong focus on customer loyalty and retention and ensuring that they get the right tariff prices for the market to ensure sustained usage and ARPU levels.

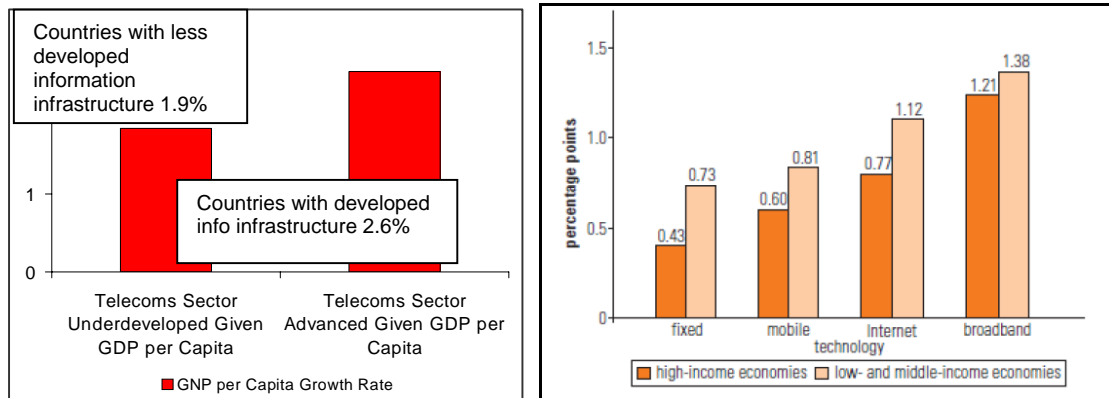
The knock-on effects of the financial crisis on operators in the CIS region are still being played out, however. The two leading Russian operators have subsidiaries throughout the CIS region. MTS is operational in Armenia, Ukraine, Uzbekistan, Turkmenistan and Belarus, whilst VimpelCom is operational in Armenia, Georgia, Kazakhstan, Ukraine, Uzbekistan and Tajikistan. (MegaFon is also operational in Tajikistan). Several of these markets have also been hard-hit by the financial crisis, particularly Ukraine and Kazakhstan, and foreign exchange movements mean that the full impact of the financial crisis may be felt at a group level for major operators in the region, including MTS and VimpelCom.

4. GROWTH IMPACT OF ICTS AND BROADBAND

Historically, there is a large body of research supporting positive economic returns to investment in ICTs. Investment is a consistent driver of economic growth in regression work e.g. Hardy (1980) & Norton (1992). However, these studies failed to allow for two-way causation. After allowing for two-way causation (“endogeneity”) and time lags, Roller & Waverman (1996)² found strong positive growth effects of investment in telecommunications, with a 10% rise in fixed-line penetration resulting in a 2.8% rise in GDP. Waverman et al (2005) found a strong positive impact of mobile telephony on economic growth in developing countries. Booz & Company found that a 10% higher broadband penetration in any year is correlated with a 1.5% increase in labour productivity over the following five years.

Many of these studies distinguish between high-income and low-income economies as structurally different (Figure 1). Some authors have suggested that raising ICT penetration has greater beneficial growth impact for developed countries, given their more service-oriented economies and educated workforce ready to make intensive use of ICTs. The contribution of broadband to economic growth is substantial and may be greater than narrowband or voice-based ICTs, providing a boost of 1.38% to GDP growth in developing countries for every 10% increase in broadband penetration - see Figure 1, right.

Figure 1: The Growth Impact of Information Infrastructure



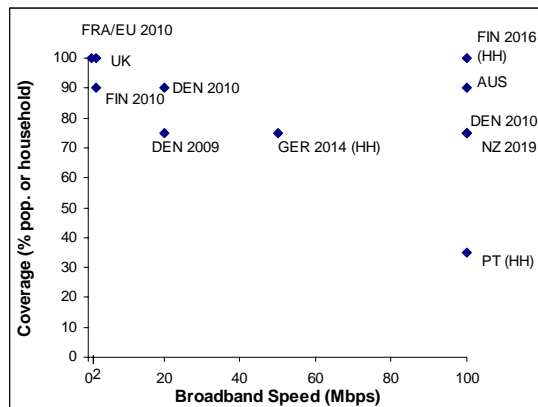
Source: GICT MNA Working Paper (2003); right chart - Qiang (2009) and "Information and Communication for Development Report 2009", World Bank (2009), quoted in the ITU report, "Confronting the Crisis: ICT Stimulus Plans for Economic Growth".

However, most of this research is based in more 'ordinary' economic times. It is not clear whether investments in ICTs in recessionary times have the same impact on growth, no matter how large-scale these investments may be - some commentators agree that economic multipliers for government stimulus investments are likely to be lower during a recession. Nevertheless, on the basis of strong economic returns to investment, many stimulus plans have prioritized investments in modern communication infrastructure to support the roll-out of new services and generate jobs.

Access to broadband Internet in particular is argued to boost productivity growth and competitiveness, cut transaction costs, improve business and market organization and promote more efficient social discourse and education. For example, Strategic Networks Group (SNG) found that secondary investments driven by broadband can be ten times as high as the initial investment, while their contribution to GDP could be fifteen times the initial amount. Broadband exhibits strong positive network externalities with benefits not only to individual consumers, but also to other users and society as a whole. Atkinson (2007) identifies network externalities, investment externalities, competitiveness externalities and regional externalities. Due to these externalities, the social returns from investing in broadband infrastructure exceed the private individual returns of companies and consumers, so market forces alone will underestimate and fail to generate the socially-optimal level of broadband.

Based on the growth and productivity benefits of ICTs, many OECD governments have now launched national broadband stimulus plans. Often developed in parallel with the investment plans of many operators and incumbents, these stimulus plans focus on providing broadband (sometimes at specified speeds, using specified technologies) to various priority groups or communities. Countries have varied in the boldness of their targets in coverage and speeds (Figure 2), which partly relate to the technologies chosen and applications sought (Figure 3). Some countries (e.g. Finland and Germany) have set staged targets for achieving specified levels of coverage by certain dates. Denmark has staged its targets in terms of speeds and coverage. The UK's Digital Britain Plan envisages full nationwide coverage with 2 Mbps broadband service, while France and EU seek to provide universal coverage of high-speed broadband Internet access. Countries differ in whether targets are by population, household coverage or by locality.

Figure 2: Targets Announced in Stimulus Plans to Date, 2009

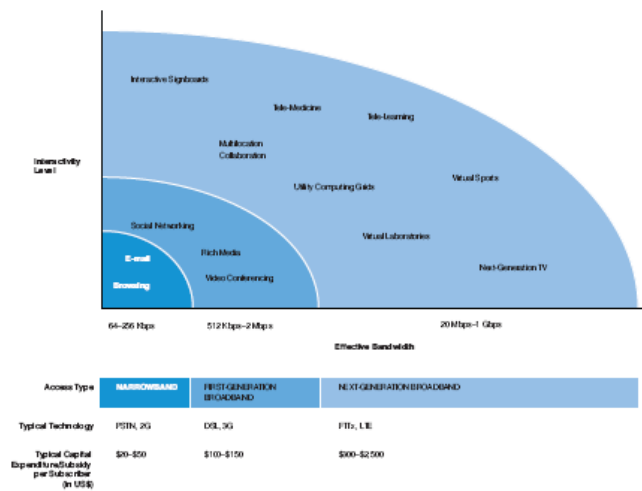


Source: ITU Report, "Confronting the Crisis: ICT Stimulus Plans for Economic Growth", October 2009.

The advantage of setting national targets for coverage and broadband speed is that it provides a clear signal by Government of its commitment towards establishing the foundations for a modern information economy with advanced infrastructure and access technologies. National targets can amount to a type of universal service obligation, ranking communities and individuals equally or promoting social objectives (e.g. for poorer communities or rural areas). Conversely, however, national targets may also prove a rather blunt tool that may fail to take into account the needs and geography of certain areas.

Figure 3: Pushing The Boundaries of Broadband

Pushing Beyond Broadband's Current Capacity



Source: Booz & Company (2009), “Digital Highways: Role of Government in 21st Century Infrastructure”.

Investments in ICT and broadband networks can make an important contribution to restoring the conditions for long-term economic growth, as they are ‘shovel-ready’ investments that promise stronger marginal returns on supply and greater productivity gains than other forms of infrastructure (e.g. transport). Investments in ICTs are a long-term investment in national infrastructure and national skills base. Experience to date suggests that although long-term large-scale public infrastructure investments take longer to plan and execute, infrastructure investments are likely to generate more robust and durable economic growth than other types of stimulus measures (such as tax rebates). For greatest effect, leading economists have suggested that stimulus measures should be timely, targeted and temporary.

To date, broadband stimulus plans have focused mainly on financing – both in the huge investments announced (but not yet disbursed, in many cases), as well as in the credit lines and open investment models that some governments are exploring to fund ICT network deployment. Broadband investments can create risks that governments engage in ‘picking technologies’, ‘picking winners’ and ‘picking communities’, risks that need to be carefully guarded against. There are also likely to be consequences for competition in whether state financing could tilt the playing field and implicitly favor incumbents with extensive established backbone networks. Broadband investments must be designed carefully in such a way as to minimize these dangers and to ensure that stimulus funds are well-spent to the benefit of the industry, consumers and society.

In reality, an over-emphasis on funding and may overlook other more simple, immediate and sometimes more effective measures that governments can take to promote fresh investment by reforming taxation, promoting competition, creating greater regulatory clarity and certainty and resolving spectrum issues. For example, governments can accelerate the transition to digital TV to free up spectrum more quickly, simplify licensing procedures, optimize spectrum allocation through refarming or spectrum trading and promote collocation and infrastructure sharing, etc. There are a number of measures governments can take to promote an enabling framework for greater investment despite a lack of readily available credit, before (or in addition to) resorting to providing funding.

5. CONCLUSIONS AND RECOMMENDATIONS

The financial crisis and global economic slowdown is threatening demand and revenues and has imposed funding constraints on industry and Governments alike, at a time when massive investments are needed to upgrade infrastructure. CIS economies usually already have a high degree of state involvement in the planning and funding of new infrastructure. The focus is now on policy options for investing strategically in the digital future. Policy-makers must invest wisely for long-term growth and prosperity and ensure the nationwide development of the telecommunication sector.

However, although the response to the crisis in many countries has tended to focus on financing, this focus on funding may overlook other more simple, immediate and effective measures that governments can take to promote private sector investment by reforming taxation, promoting competition, creating greater regulatory clarity and certainty and resolving spectrum issues. There are a number of measures governments can take to promote an enabling framework for greater investment despite a lack of readily available credit, before or in addition to resorting to funding. The focus is now on policy options for investing strategically in the digital future for long-term growth and prosperity.

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<http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:22209360~pagePK:34370~piPK:34424~theSitePK:4607,00.html>

²“Telecommunications Infrastructure and Economic Development: A Simultaneous Approach”, Roller & Waverman (1996), WZB Discussion Paper, available at: <http://skylla.wz-berlin.de/pdf/1996/iv96-16.pdf>